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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/806,273 | 03/23/2004 | Horst Flechtner | 080437.52816US | 1868 |

23911 7590 03/24/2005

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| EXAMINER |
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TO, TUAN C

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| ART UNIT | PAPER NUMBER |
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3663

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,273

Applicant(s)

FLECHTNER ET AL.

Examiner

Tuan C To

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/23/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

The applicant is required to submit the drawings in response to this office action.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A

COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A

"Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

It is noted that section (g) of the specification is missing

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The proposed abstract is longer 150 words. A correction should be provided.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

On page 17 of the specification, the GPS is mentioned, however, the examiner has found that the subject matter contained in claim 20 was not neither described in page 17 nor another page of the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14, 15, 30, and 31 recite the limitation "detectable offsets", "plausibility controls" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 8, 12, 16-19, 21, 22, 24, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1) and in view of Lalor et al. (US 6332354B1).

With respect to claims 1, 8, and 24, Leimbach et al. disclose a system and method for determining a vehicle mass while taking different driving situations into consideration. It is true because in Leimbach et al. the mass value of the vehicle is determined either when the vehicle is traveling on a roadway slope or when the vehicle is traveling on a street level (Leimbach et al., column 4, lines 16-34). The evaluation of a vehicle acceleration is also discussed in the patent (column 3, lines 31-51). Thus, the teachings of Leimbach et al. read on the limitation: "a method for determining the mass of a motor vehicle while taking different driving situations into consideration, involving an evaluation of a vehicle acceleration". In addition, in column 3, lines 31-51, Leimbach et al. further describe the determination of mass M_{ges} for a vehicle acceleration a_{Fhzg} as the following:

$M_{ges} * a_{Fhzg} = F_{antr} - F_{Roll} - F_{Luft} - F_{Hang} - F_{Rot}$, which reads on the limitation: "wherein a part from a driving force of a vehicle drive unit, resistance forces resulting from rotational forces, air resistance, rolling resistance and the slope descending force are taken into consideration".

Although Leimbach et al. teach a braking system to receive the command signal from the brake system controller (102) (see figure 1), Leimbach do not disclose: "a braking force is also taken into consideration".

Lalor et al. is directed to a system and method for determining the effectiveness of a braking system and for measuring changes in the mass of a motor vehicle. In Lalor et al., the braking force is considered as it is $F = M * D$, wherein M is the actual vehicle mass, D is deceleration rate (Lalor et al, column 9, lines 1-15).

Hence it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Leimbach et al. to include the teachings of braking force as represented in Lalor et al.'s in order to provide vehicle safety while vehicle is traveling on a typical roadway that has a specific coefficient friction.

With regard to claims 2 and 17, Leimbach et al. teach that at least two driving situations are considered, one is when the vehicle is traveling on a roadway slope, and one when the vehicle is traveling on a street level (Leimbach et al., column 4, lines 16-34). In figure 3, it is shown both curves a and b represent the function of the estimated mass M_i with respect to the drive force F_{antri} . Thus, the teachings of Leimbach et al read on the limitation: "individual mass evaluation results from each of the plurality of driving situation evaluations are stored, and the stored individual mass evaluation results are combined into a collective mass value".

With regard to claims 3 and 18, Leimbach et al. disclose the limitation: "when determining the collective mass value, different driving situations are weighted differently (Leimbach et al., figure 3; column 4, lines 27-34).

With regard to claims 4-6, 19, 21, and 22, Leimbach et al. disclose the limitation: "for taking the slope descending force into consideration, a roadway inclination is

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determined by determining, by means of at least one longitudinal acceleration sensor installed in the vehicle, an acceleration occurring in the horizontal direction and by relating it to the acceleration occurring in the roadway direction (Leimbach et al, column 3, lines 45-51; column 4, lines 27-34).

With regard to claims 12 and 28, Lalor et al. teach that the braking force is determined from the actual vehicle mass and the deceleration rate. Therefore, Lalor et al. is inherently disclose that the braking force is distributed on the vehicle wheels on a specific path is not the same.

With respect to claim 16, Leimbach et al. disclose a system and method for determining a vehicle mass while taking different driving situations into consideration. It is true because the mass value of the vehicle, as discussed herein, is determined either when the vehicle is traveling on a roadway slope or when the vehicle is traveling on a street level (Leimbach et al., column 4, lines 16-34). The evaluation of a vehicle acceleration is also discussed in the patent (column 3, lines 31-51). Thus, the teachings of Leimbach et al. read on the limitation: "a method for determining the mass of a motor vehicle while taking different driving situations into consideration, involving an evaluation of a vehicle acceleration". Furthermore, in column 3, lines 31-51, Leimbach et al. further teach that the determination of mass M_{ges} for a vehicle acceleration a_{Fhzg} as the following:

$$M_{ges} * a_{Fhzg} = F_{antr} - F_{Roll} - F_{Luft} - F_{Hang} - F_{Rot}, \text{ which reads on the limitation:}$$

"wherein a part from a driving force of a vehicle drive unit, resistance forces resulting

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from rotational forces, air resistance, rolling resistance and the slope descending force are taken into consideration”.

Although Leimbach et al. teach a braking system to receive the command signal from the brake system controller (102) (see figure 1), Leimbach do not disclose: “a braking force is also taken into consideration”.

Lalor et al. is directed to a system and method for determining the effectiveness of a braking system and for measuring changes in the mass of a motor vehicle. In Lalor et al., the braking force is considered as it is $F = M * D$, wherein M is the actual vehicle mass, D is deceleration rate (Lalor et al, column 9, lines 1-15).

Hence it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Leimbach et al. to include the teachings of braking force as represented in Lalor et al.’s in order to provide vehicle safety while vehicle is traveling on a typical roadway that has a specific coefficient friction.

Claims 7 and 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), Lalor et al. (US 6332354B1), and further in view of Weiberle et al. (US 6374171B2).

Leimbach et al. and Lalor et al. teach the limitations of claims 4 and 19 except for the limitation: “ a vehicle body pitch angle is taken into consideration”.

The U. S Patent No. '171B2 to Weiberle et al. has been provided as teaching “vehicle body pitch angle is taken into consideration” as claimed (see figure 2; column 3, lines 17-30).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Leimbach et al., Lalor et al., and Weiberle et al. so that the vehicle braking force is properly adjusted to keep the vehicle in a stable condition, specifically when the vehicle is moving uphill or down hill.

Claims 9 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), Lalor et al. (US 6332354B1), and further in view of Deml et al. (US 6059379A).

The combination of Leimbach et al. and Lalor et al. discloses the limitation of claims 8 and 24 except for the teaching: "the braking fore is determined from a braking pressure and an estimated coefficient of friction between a brake lining and a brake disc."

The U.S Patent No. '379A to Deml et al. has been cited as disclosing the limitation as stated above (Deml et al., column 3, lines 9-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the teachings of braking force, as clearly explained in Deml et al. patent, to the teachings of braking force disclosed in Leimbach et al., Lalor et al. so that the braking force applied to each wheel is automatically adjust to keep the vehicle in a stable condition.

Claims 10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), Lalor et al. (US 6332354B1), and further in view of Yasui et al. (US 20020008423A1).

Leimbach et al. and Lalor et al. disclose the limitations of claims 8 and 24 except for the teachings of: "only braking operations without notable slippage between tires and roadway are taken into consideration".

Yasui et al. has been cited as teaching a vehicle system, in which the braking operation is taken into consideration. The slippage is prevented while the braking force is distributed to each wheel of a vehicle (Yasui et al., paragraph 0034).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Leimbach et al., Lalor et al., and Yasui et al. so that the vehicle is maintained in a stable condition whether it travel on a slippage surface or not.

Claims 11 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), Lalor et al. (US 6332354B1), Deml et al. (US 6059379A), and further in view of Yasui et al. (US 20020008423A1).

Leimbach et al., Lalor et al., and Deml et al. disclose the limitations of claims 9 and 25 except for the teachings of: "only braking operations without notable slippage between tires and roadway are taken into consideration".

Yasui et al. has been cited as teaching a vehicle system, in which the braking operation is taken into consideration. The slippage is prevented while the braking force is distributed to each wheel of a vehicle (Yasui et al., paragraph 0034).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Leimbach et al., Lalor et al., and Yasui

et al. so that the vehicle is maintained in a stable condition whether it travels on a slippage surface or not.

Claims 13 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leimbach et al. (US 6314383B1), Lalor et al. (US 6332354B1), and further in view of Heintz et al. (US 5485381A).

Leimbach et al. and Lalor et al., as a combination, disclose the limitation of claims 4 and 16 except for the teaching: "at least one of the roadway inclination and the path traveled during a braking operation is determined from a vehicle navigational system".

Heintz et al. has been cited to overcome the missing feature from said combination (Heintz et al., column 2, lines 30-54).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Leimbach et al., Lalor et al., and Heintz et al. so that the vehicle speed limit or braking operation is controlled appropriately in according to the road surface of a specific road that has been stored in the geographic database of the vehicle navigation system.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (703) 308-6273. The examiner can normally be reached on from 8:00AM to 5:00PM.

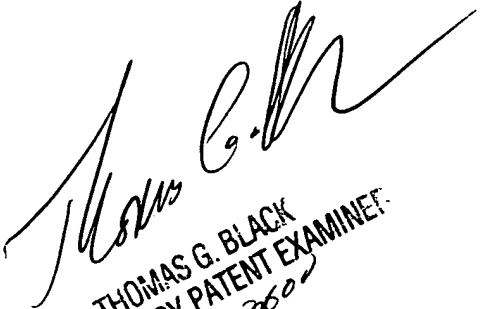
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/tc

March 17, 2005


THOMAS G. BLACK
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